Claims

What is claimed is:

1   1.   A method for implementing intelligent spin-up for a disk drive
2   comprising the steps of: .
3   receiving a command;
4   checking for a disk drive start command;
5   responsive to identifying said disk drive start command, checking a
6   no-start flag; and
7   responsive to identifying said no-start flag being set, returning an error
8   code without starting said disk drive.

1   2.   A method for implementing intelligent spin-up for a disk drive
2   as recited in claim 1 includes the step of starting said disk drive only
3   responsive to identifying said no-start flag not being set.

1   3.   A method for implementing intelligent spin-up for a disk drive
2   as recited in claim 2 includes the steps of monitoring said disk drive to
3   identify a disk drive fault.

1   4.   A method for implementing intelligent spin-up for a disk drive
2   as recited in claim 3 includes the step responsive to identifying said disk
3   drive fault, of checking whether said identified disk drive fault is a predefined
4   dead device fault.

1   5.   A method for implementing intelligent spin-up for a disk drive
2   as recited in claim 4 includes the step of responsive to identifying said
3   predefined dead device fault, setting said no-start flag and storing said error
4   code.

1   6.   A method for implementing intelligent spin-up for a disk drive
2   as recited in claim 4 wherein the step of checking whether said identified
3   disk drive fault is said predefined dead device fault includes the step of
4   comparing a unit error code of said identified disk drive fault with a plurality
5   of predefined dead device (DD) unit error codes (UECs) to identify a match.

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1   7.   A method for implementing intelligent spin-up for a disk drive
2 as recited in claim 1 further includes the steps of identifying a predefined
3 dead device fault, setting said no-start flag, setting a no-load flag and storing
4 said error code.

1   8.   A method for implementing intelligent spin-up for a disk drive
2 as recited in claim 7 includes the step responsive to receiving said command
3 with said disk drive running and said transducer heads not being loaded,
4 checking said no-load flag.

1   9.   A method for implementing intelligent spin-up for a disk drive
2 as recited in claim 8 includes the step responsive to identifying said no-load
3 flag being set, stopping said disk drive and returning said error code.

1   10.   Apparatus for implementing intelligent spin-up for a disk drive
2 comprising:
3   a disk drive controller; said disk drive controller responsive to
4 receiving a disk drive start command, for checking a no-start flag;
5   said disk drive controller responsive to identifying said no-start flag
6 being set, for returning an error code without starting said disk drive; and
7   said disk drive controller for starting said disk drive only responsive to
8 said no-start flag not being set.

1   11.   Apparatus for implementing intelligent spin-up for a disk drive
2 as recited in claim 10 wherein said disk drive controller for monitoring said
3 disk drive to identify a predefined dead disk drive fault; and said disk drive
4 controller responsive to identifying a predefined dead disk drive fault, for
5 setting said no-start flag, and for storing said error code.

1   12.   Apparatus for implementing intelligent spin-up for a disk drive
2 as recited in claim 10 wherein said disk drive controller responsive to
3 identifying a predefined dead disk drive fault, for setting a no-load flag.

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1   13.   Apparatus for implementing intelligent spin-up for a disk drive
2   as recited in claim 10 wherein said disk drive controller responsive to
3   identifying said no-load flag being set with said disk drive running and
4   transducer heads not being loaded, for stopping said disk drive and returning
5   said error code.

1   14.   A computer program product for implementing intelligent spin-
2   up for a disk drive, said computer program product including a plurality of
3   computer executable instructions stored on a computer readable medium,
4   wherein said instructions, when executed by a disk drive controller in the
5   disk drive, cause the disk drive controller to perform the steps of:
6   receiving a command;
7   checking for a disk drive start command;
8   responsive to identifying said disk drive start command, checking a
9   no-start flag;
10   responsive to identifying said no-start flag being set, returning an error
11   code without starting said disk drive; and
12   starting said disk drive only responsive to identifying said no-start flag
13   not being set.

1   15.   A computer program product for implementing intelligent spin-
2   up for a disk drive as recited in claim 14 wherein said instructions, when
3   executed by a disk drive controller in the disk drive, further cause the disk
4   drive controller to perform the steps of:
5   monitoring said disk drive to identify a predefined dead disk drive
6   fault; and
7   responsive to identifying a predefined dead disk drive fault, setting
8   said no-start flag, setting a no-load flag and storing said error code.

1   16.   A computer program product for implementing intelligent spin-
2   up for a disk drive as recited in claim 15 wherein said instructions, when
3   executed by a disk drive controller in the disk drive, further cause the disk
4   drive controller to perform the steps of:
5   receiving said command with said disk drive running and transducer
6   heads in said disk drive not being loaded; and
7   responsive to identifying said no-load flag being set, stopping said
8   disk drive and returning said error code.

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